REMARKS

Priority

We have obtained and attach certified copies of the New Zealand priority applications and a copy of PCT/IB/304.

Claim Rejections – 35 U.S.C. 102(b)

Claims 1, 47 to 51, 59, 60, 63 to 67, 75, 76, 79 to 83, 91, 92 and 95 are rejected under 35 U.S.C. 102(b) as being anticipated by a public use or sale of the invention in view of Wells, Amanda: "Aussie Firm Maps out NZ Data" (Wells). The examiner objects that Wells discloses the system designed by Compudigm International and describes the overall features of the claimed invention, including the display of data through topographic mapping means.

The applicant respectively traverses the rejection.

The Wells document describes two products developed by MapData Sciences, namely MDSCensNZ and NZRoadnet as being available in New Zealand from the applicant.

MDSCensNZ is a data set based on the New Zealand census, together with simple mapping functionality and the ability to plug into the desktop GIS map info. The product is not a full visualisation system, nor does it include the contouring functions of the invention as claimed.

The product NZRoadnet is simply a geographical dataset and is not a visualisation system.

Neither of these products represent the invention, as neither product includes the sophisticated contouring features of the invention.

Claim Rejections – 35 U.S.C. 102(a)

Claims 1, 47 to 51, 59, 60, 63 to 67, 75, 76, 79 to 83, 91, 92 and 95 are rejected under 35 U.S.C. 102(a) as being anticipated by MapInfo.com (MapInfo). The applicant respectfully

submits that each screen print should be treated as a separate document. The applicant further submits that some of the documents forming the MapInfo reference have a verified publication date within 12 months of the PCT filing date of June 14, 2000 and therefore fall within the grace period.

The invention as defined in the revised claims generates and displays one or more contour lines around each data point, each contour line representing data values that are less than the data value of the data point around which the contour line is displayed. It will be appreciated that in some circumstances the contour lines around data points may overlap and will only completely surround a data point if the data point is represented in isolation. Nevertheless, the contour lines at least partially surround each data point or group of data points. This feature of the applicant's data visualisation software enables a user to quickly view data points of interest.

The applicant has reviewed the MapInfo documents raised by the US examiner. MapInfo is described as helping professionals in telecommunications, finance, transportation and retail companies improve their decisions through information discovery. The documents describe the step of generating and displaying a cell site map on which can be overlaid objects representing data such as customer complaint calls.

One of the MapInfo documents describes the use of a hexagonal grid called a reuse grid layered over the channel set map to ensure proper distribution of radio frequencies. The MapInfo documents describe the pinpointing of trouble spots by highlighting geographic areas associated with a trouble spot to a user, and the hexagonal grid is one example of this.

The MapInfo system is described as highlighting those areas with the highest complaint rate and then zooming in on those areas so that engineers and technicians can be informed about areas that need immediate attention.

The MapInfo visualisation tools do not extend beyond crude geometric objects, for example green triangle objects and hexagonal grids, and thematic shading. The applicant has found that the sophisticated contouring techniques on which the present invention is based provides an intuitive overview of data values to a user.

In accordance with the invention, contours are generated and displayed around a finite set of data points, such that each data point is displayed as a local maximum, or each contour line represents data values that are less than the data value of the data point around which the contour line is displayed. This technique can be distinguished from the continuous thematic shading described in the MapInfo document and other weather map technologies in that these technologies do not generate a contoured surface in which each data point is represented as a local maximum. In fact, where a contoured surface is generated around a data point which represents a low data value, that data point will generally not be a local maximum but a local minimum and will appear as a dip or depression on the contoured surface. None of the documents describing weather maps and other shading techniques describe or suggest the generation and display of a contoured surface in which each data point appears as a local maximum.

Claim Rejections – 35 U.S.C. 103

Claims 52-58, 61,62, 68-74, 77, 78, 84-90, 93, 94 are rejected as being obvious in view of MapInfo. Applicant respectfully submits that the rejected claims are now dependent on claims that are considered novel and non-obvious over MapInfo.

The applicant submits that the present invention provides a way of displaying a set of data points irregularly spread out in space. The invention displays the data points in such a way that the display uses the entire area, the display emphasises the places where the data points are, the display does not mislead the viewer into thinking that other areas are important, the display merges together the data from several points if the values are similar, the display animates well, showing gradual changes and data producing gradual changes in image, and the display also gives most interest where differing values are close together.

MapInfo provides a solution of displaying data points that uses the entire area. One prior art technique as illustrated in MapInfo is to construct a Voronoi tessellation of the area and to shade this area thematically.

The sophisticated contouring techniques of the present invention are much more effective than the MapInfo system in emphasising the places where data points are, not misleading the viewer and giving most interests where differing values are close together. MapInfo is specifically not suitable for animation, showing gradual changes in data producing gradual changes in image.

Further Art

The applicant submits that the patents cited by the examiner to show the state of the art with respect to data visualisation, namely US 6,232,984 to Chuah et al and WO 97/13210 to Sitarski et al do not teach or suggest the sophisticated contouring techniques on which the present invention is based.

The applicant respectfully submits that the claimed invention is not disclosed or taught by any other reference of record.

This application now stands in allowable form and reconsideration and allowance is respectfully requested.

Respectfully submitted,

DORSEY & WHITNEY LLP
Customer Number 25763

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By: David E. Bruhn

David E. Bruhn (Reg. No. 36,762)
Intellectual Property Department
Suite 1500, 50 South Sixth Street
Minneapolis, MN 55402-1498
(612) 340-6317